

Comp313 Assignment 1 Documentation

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The main action of the game is to shoot at (and kill) a certain number of enemies (based on difficulty ranging from 4-16), then subsequently defeat a boss that spawns after the required score has been reached.

Ammo and Health+Armor must be managed while playing the game, and checking the 'Generate Interactables' toggle in the main menu settings will allow certain interactables such as ammo boxes, potions, and healing campfires in the game to spawn, mitigating a little of the required management.

The meshes, textures and materials I used were all from either tutorials, or from the Free assets on the Unreal Marketplace.

The tutorials I primarily used were from:

This 56-part First-Person-Shooter tutorial by Devsquad:

<https://www.youtube.com/watch?v=DywBqQtTHMo&list=PLL0cLF8gjBprG6487lxqSq-aEo6ZXLDLg>

This interactables mini-tutorial by Titanic Games:

<https://www.youtube.com/watch?v=DeOEvQ8tFzY>

And this main menu tutorial:

<https://www.youtube.com/watch?v=vWg23nEH5qk>

Initially, I followed the official Unreal Engine tutorials on the website, but after figuring out what kind of game I wanted to implement, I switched to the tutorial by Devsquad. I followed it essentially step-by-step, changing some settings and functionalities around to tailor to my game. When I wanted to implement interactables, I followed the tutorial by Titanic Games.

One issue I had that caused a lot of stress was the fact that tutorials are all released during different Unreal versions, causing some blueprint nodes to differ, and having to research alternatives.

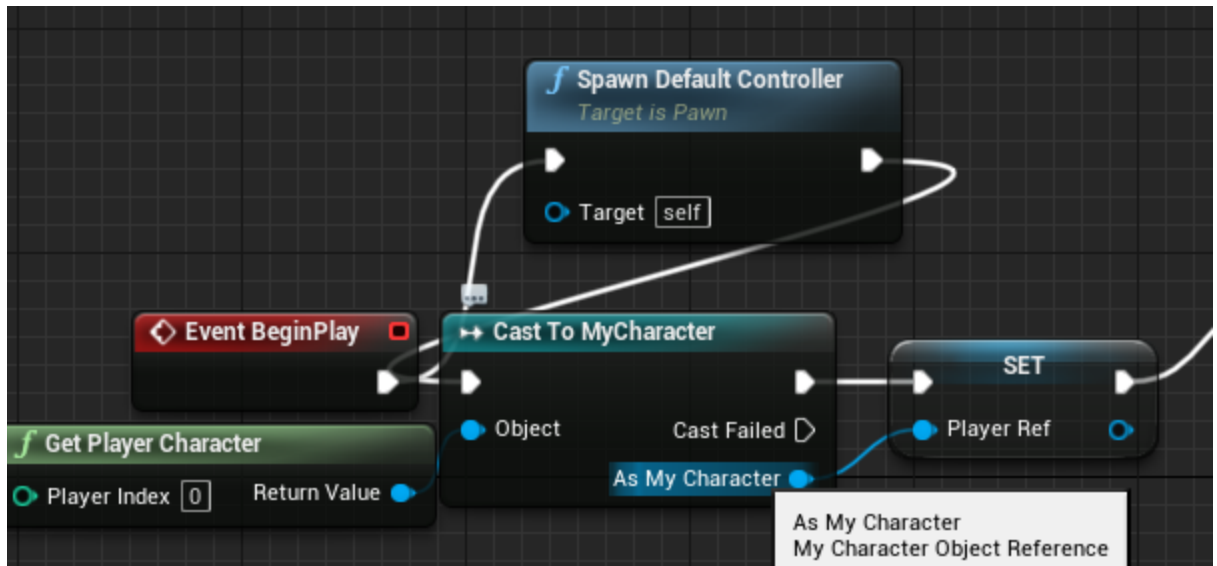
By the time I was almost finished and needed menu screens, I was a lot more confident in my designing, and understood a lot more about the Unreal blueprint system. Fortunately, after watching enough tutorials, whenever I watch a new one, and I hear that I have to implement something, more often than not, I no longer have to follow along with the exact nodes they attach, and simply attach it in the way I know, because of my experience with them.

For me, the hardest part to implement inside of the game was animations, and triggering the boss.

1. The animations were exported from the Devsquad tutorial, and were tough for me, because the AK-47 gun within the game was not tailored specifically for the SWAT character mesh in the animations. Adjusting the gun socket and angling it perfectly proved to be incredibly annoying and required a lot of trial and error. Even within the game, the AimDownSights camera is tilted at an angle.



2. Triggering the boss was a simple fix which I could not figure out for the life of me. When it was spawned through the game, and not by itself, its AI would not activate, and it would simply stay in place. A simple node re-mapping its AI fixed it for me, but it took hours of debugging to figure this out.



For me, the most interesting part of the game is the different AI and the interactables.

1. Having 2 different AI coming at you requires the player to mix up their strategies, away from simply running away or hiding behind cover. I really enjoyed the variety in enemies and seeing 2 different ways I could implement an enemy, as well as their AI.
2. The interactables were very important to me, because I could put my own spin on them. While the Ammo pickup boxes were from the tutorial, implementing the campfire (inspired from Fortnite) and potions were all my own ideas.